



THE UNITED STATES PATENT AND TRADEMARK OFFICE

United States Patent Application

To: Commissioner for Patents
Washington, D. C. 20231

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Application Number..... 09/636157 *2A*
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Applicant(s)..... Anil Vasudeo Virkar,
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Group Art Unit.....1755
ExaminerMichael Marcheschi
Attorney's Docket Number MS2034-1
Title..... "ALKALI-METAL-BETA- AND
BETA"-ALUMINA AND GALLATE
POLYCRYSTALLINE CERAMICS AND
FABRICATION BY A VAPOR PHASE
METHOD"

CERTIFICATION UNDER 37 C.F.R. 1.8
I hereby certify that this document, along with attachments referred to
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July 2001 in an envelope addressed to Commissioner for Patents,
Washington, D. C. 20231. Name of Registered Representative: James
L. Sonntag, Reg. 30224

James L. Sonntag

PRELIMINARY AMENDMENT

Please amend the application as indicated below:

In the Claims

Please cancel claim 1 without prejudice.

Please add the enclosed new claims.

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TC 1700

12/42
A process for forming ceramic composites of an oxygen-ion conducting ceramic

and an alkali-metal-ion conducting ceramic;

forming a shaped composite comprising a precursor ceramic of α -X₂O₃ and oxygen-ion

conducting ceramic, such that a continuous matrix exists in the composite for both the precursor

ceramic and the oxygen-ion conducting ceramic,

subjecting the composite to a vapor containing metal oxide of an alkali metal at sufficient

temperature and for sufficient time to convert precursor ceramic into a continuous phase of

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01 FC:203
02 FC:202

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